

**SYSTEM AND METHOD FOR EFFECTING A REAL-TIME PAYMENT
FOR AN ITEM WON ON AN ELECTRONIC AUCTION**

PRIORITY

This patent application is a continuation-in-part application of a patent application
5 filed on November 14, 2001 and assigned U.S. Application Serial No. 09/993,818 which is a
continuation-in-part application of a patent application filed on September 5, 2001 and
assigned U.S. Application Serial No. 09/946,616 which is a continuation-in-part application
of a patent application filed on January 17, 2001 and assigned U.S. Application Serial No.
09/764,618, the contents of the priority patent applications are incorporated herein by
10 reference.

FIELD OF THE INVENTION

The present invention relates to a computerized electronic auction payment system
and a method for effecting a real-time payment using the computerized electronic auction
payment system for an item won on an electronic auction, where users access the
15 computerized electronic auction payment system by remote terminals via an electronic
network, such as the Internet.

BACKGROUND OF THE INVENTION

A conventional auction is a prior art process in which bids from bidders are received
by an auctioneer for an item to be sold. The bidder whose bid is the highest at the
20 termination of the auction (the "successful or winning bidder") becomes the purchaser of the
item.

With the advent of electronic networks, such as the Internet, electronic auctions have
become tremendously popular. Electronic auctions typically entail a seller of an item

1044075.011102

accessing an electronic auction web site, such as EBAY™ and YAHOO!™ Auctions, using a remote terminal and a web browser via the electronic network. The prospective seller then lists the item for sale with a short description describing the item which may include a scanned photograph of the item, provides a beginning selling price, and a date and time for the auction to end. Generally, the date and time for the auction to end must be at least seven to ten days from the present date and time; the present date and time is generally set as the date and time for the auction to begin by an auction management system, such as software and hardware modules, overseeing the electronic auction web site.

The seller can also provide, prior to initiating the commencement of the electronic auction, any additional costs the winning bidder will have to pay, such as shipping and handling fees and taxes, and any additional costs the winning bidder is recommended to pay, such as shipping insurance. Additional information which is provided by the seller or the electronic auction web site management system, prior to the commencement of the electronic auction, includes identification information corresponding to the seller, e.g., the seller's user-name, and the seller's location.

During the auction, a prospective bidder using a remote terminal accesses the electronic auction web site via the electronic network and views the item for sale. The prospective bidder can then submit a bid by typing a bid amount, which is greater than a displayed current selling price, and entering his user-name. The auction web site then informs the user or bidder whether he is or is not currently the highest bidder. If the bidder is not the highest bidder, the electronic auction web site informs the bidder of the current selling price and offers the bidder an opportunity to bid again.

The bidder may not be the highest bidder even though the bidder may have entered a

bid amount greater than the displayed current selling price, because each bidder is allowed to enter a maximum bid amount, i.e., the most the bidder is willing to pay for the item. The electronic auction web site, however, typically displays an amount less than the maximum bid amount, which is sufficient to surpass a previous bid, as the displayed current selling price. Hence, a current bidder's bid amount may be greater than the displayed current selling price, but not greater than the previous bidder's maximum bid amount. Therefore, the current bidder will need to bid again if he desires to surpass the previous bidder's maximum bid amount and become the current high bidder.

The electronic auction web site also offers a prospective bidder the option of sending an e-mail to the seller via the electronic network in order to obtain additional information about the item offered for sale, prior to bidding for the item. The seller can then e-mail the prospective bidder with the additional information which may assist the prospective bidder in determining whether to bid or not to bid for the item. Further, if the seller realizes that the additional information can be helpful to other prospective bidders, the seller can append the description of the item with the additional information to allow anyone accessing the section of the electronic auction web site listing the item to read the additional information.

At the conclusion of the electronic auction, the electronic auction web site management system deems the bidder who has the highest bid as the winning bidder. To effect payment for the item, an e-mail is sent to the seller and the winning bidder informing them to contact each other to proceed with a payment transaction. Upon the seller notifying the winning bidder of where to send payment, e.g., a check or money order, the winning bidder sends payment equal to the highest bid plus any other costs, such as shipping and handling, shipping insurance, and taxes, as indicated by the seller. Soon after receiving the

payment from the winning bidder, the seller ships the item to the winning bidder.

Another prior art method for effecting payment for the item won on the electronic auction entails clicking an icon on the electronic auction web site and accessing a payment web site (or a payment segment of the electronic auction web site). The payment web site typically lists the seller's user-name and the item won. While at the payment web site, the winning bidder enters credit card information and the amount to be charged to his credit card. Subsequently, a management system overseeing the payment web site charges the credit card for the entered amount to a company or entity affiliated with an operator or owner of the payment web site. Upon payment confirmation, an e-mail is sent to the seller instructing the seller to ship the item to the winning bidder. After two to three business days, the payment web site management system pays the seller by direct deposit an amount equal to the charged amount minus a commission and a transaction fee. The commission typically paid to the operator or owner of the electronic auction web site and the transaction fee is paid to the operator or owner of the payment web site.

A variation of this method is for the winning bidder to directly transfer his credit card information to the seller. The seller then charges the credit card information and waits for a payment confirmation prior to shipping the item to the winning bidder.

It is a drawback of the prior art methods for effecting payment for the item won on the electronic auction in that the winning bidder is apt to waiting prior to effecting payment, since the winning bidder will need to perform several tasks, such as, for example, draft a check made payable to the seller, and mail the check to the seller. The winning bidder is also apt to waiting when he is bidding on other items, since the winning bidder usually prefers to draft checks, obtain money orders, etc. and mail them to the various sellers at one time.

Another drawback is that the seller must wait at least two business days to several weeks before being paid. For example, in the first prior art method described above, the winning bidder must draft a check, obtain a money order, or some other payment document, and mail it to the seller. This two-step process of paying for the item won typically causes the winning bidder to wait several days before proceeding with payment. Hence, this prior art method causes a delay from the time an auction ended until the time the seller is paid.

With the second prior art method described above, the winning bidder must enter his credit card information every time he wins an item on the electronic auction. Besides being cumbersome, a percentage of the population does not own credit cards and a percentage of the population feels uneasy transferring their credit card information via the electronic network, especially to unknown sellers. Further, the winning bidder is apt to waiting until the start of a new credit card billing cycle before transferring his credit card information to pay for the item won on the electronic auction. Again, this prior art method causes a delay from the time the auction ended until the time the seller is paid.

Another drawback with regards to the prior art methods is that the operator of the electronic auction web site must wait several days to several weeks before being paid a commission by the seller. The operator generally gets paid its commission by charging the seller's credit card, usually after e-mailing the seller and asking for the seller's authorization. It is apparent that there exists a delay from the time the auction ended until the time the operator of the electronic auction web site is paid its commission.

Accordingly, there exists a need for effecting a real-time payment for an item won on an electronic auction which overcomes the drawbacks provided above. Further, there exists a need for allowing the winning bidder to effect payment for an item won on an electronic

1 auction without having to type and transfer credit card information over an electronic
network. Further still, there exists a need for allowing a winning bidder who does not own a
credit card or feels uneasy transferring credit card information via the electronic network to
effect payment for an item won on an electronic auction without having to mail a check, a
5 money order, or other payment document to the seller. Finally, there exists a need for
allowing an operator of an electronic auction web site to get paid its commission in real-time
at the conclusion of an auction.

SUMMARY OF THE INVENTION

10 The present invention provides a computerized electronic auction payment system
and method for effecting a real-time payment for an item won in an electronic auction using
the computerized electronic auction payment system, where users access the computerized
electronic auction payment system by remote terminals, such as a personal computer, PDA,
cellular phone, etc., via an electronic network, such as the Internet. The computerized
electronic auction payment system and method of the present invention overcomes the
15 drawbacks of prior art methods and affords additional advantages.

According to an aspect of the present invention, the computerized electronic auction
payment system and method effect a real-time payment for an item won in an electronic
auction by setting up and maintaining electronic auction payment accounts for prospective
bidders and sellers. The prospective bidders provide funds to their electronic auction
20 payment accounts maintained by the computerized electronic auction payment system, prior
to being deemed as winning bidders, via direct deposit, using a credit card, or sending a
check, money order, or other financial document to an operator of the computerized

10044075.01102

5 electronic auction payment system. In one embodiment, upon being deemed as a winning bidder, the winning bidder accesses a payment page, enters the total amount of funds to be transferred to the seller, and authorizes the computerized electronic auction payment system to effect a real-time payment by debiting his, i.e., the winning bidder's, respective electronic auction payment account and crediting the electronic auction payment account of the seller, and/or another account specified by the seller. It is provided that the winning bidder's (or any user's) electronic auction payment account is deducted automatically and the deducted funds are transferred to the electronic auction payment account of the seller, and/or another account specified by the seller, if the winning bidder fails to access the payment page within a predetermined time period.

10 In an alternate embodiment, the prospective bidder authorizes the computerized electronic auction payment system to effect a real-time payment to the seller upon the prospective bidder being deemed the winning bidder (i.e., immediately following the conclusion of the auction). That is, without the winning bidder having to access the payment page.

15 Funds can be automatically transferred to the electronic auction payment accounts on a periodic basis and after funds are deducted from the payment accounts to replenish the funds deducted from the payment accounts. A fee can be charged by an operator of the computerized electronic auction payment system for automatically transferring funds to the electronic auction payment accounts and for automatically replenishing the payment accounts.

20 According to another aspect of the present invention, the computerized electronic auction payment system and method enable a winning bidder to effect payment for an item

won on an electronic auction without having to type and transfer credit card information over an electronic network.

Further, according to another aspect of the present invention, the computerized electronic auction payment system and method enable a winning bidder who does not own a credit card or feels uneasy transferring credit card information via an electronic network to effect payment for an item won on an electronic auction without having to mail a check, a money order, or other payment document to the seller.

Further, according to another aspect of the present invention, the computerized electronic auction payment system and method enable an operator of an electronic auction web site to get paid its commission in real-time at the conclusion of an auction or upon authorization by a winning bidder.

Further still, according to another aspect of the present invention, the computerized electronic auction payment system and method provide insurance to a winning bidder, in the case where the item won is never shipped to the winning bidder or the item turns out to be non-genuine and/or damaged without the fault of the courier, i.e., shipping insurance will not cover the damaged item. Accordingly, an operator of the computerized electronic auction payment system and method is deemed as being an insurance agent.

Further yet, according to another aspect of the present invention, the computerized electronic auction payment system and method invest funds stored within electronic auction payment accounts set up by users of an electronic auction web site. Accordingly, an operator of the computerized electronic auction payment system and method is deemed as being an investment broker.

Yet still, according to another aspect of the present invention, the computerized

electronic auction payment system and method are capable of cashing checks drafted against electronic auction payment accounts set up by users of an electronic auction web site.

Accordingly, an operator of the computerized electronic auction payment system and method is deemed as being a banker.

5 Also, according to another aspect of the present invention, the computerized electronic auction payment system and method make loans to users of an electronic auction web site who have set up electronic auction payment accounts. Accordingly, an operator of the computerized electronic auction payment system and method is deemed as being a loan officer.

10 Further still, according to another aspect of the present invention, the computerized electronic auction payment system and method maintain and provide data relating to at least one item having been offered for sale via at least one electronic commerce web site and purchased by a user of the at least one electronic commerce web site over a given time period by using at least funds within a payment account corresponding to the user and/or at least
15 funds loaned to the user. Accordingly, an operator of the computerized electronic auction payment system and method is deemed as being a data analyst and/or manager.

 Finally, according to another aspect of the present invention, the computerized electronic auction payment system and method provide incentives to users of an electronic auction web site for setting up and maintaining electronic auction payment accounts for
20 buying and selling items using the electronic auction web site. Accordingly, an operator of the computerized electronic auction payment system and method is deemed as being a promoter.

In particular, the present invention provides a payment system for effecting payment

10044075.011102

to a seller of an item offered for an electronic auction sale and won by a winning bidder at the conclusion of the electronic auction sale. The system includes a database containing a plurality of electronic auction payment accounts, where the plurality of electronic auction payment accounts are configured for storing funds therein and capable of being configured for automatically having funds transferred thereto from various sources, and where one of the plurality of electronic auction payment accounts corresponds to the winning bidder and one of the plurality of electronic auction payment accounts corresponds to the seller; and a web server computer including application software for effecting payment by accessing the database and debiting an electronic auction payment account corresponding to the winning bidder and crediting at least one account corresponding to the seller without any intervention by the winning bidder following the conclusion of the electronic auction. The steps of debiting the electronic auction payment account corresponding to the winning bidder and crediting the at least one account corresponding to the seller occur in real-time.

The present invention also provides a method for effecting payment for an item offered for an electronic auction sale by a seller and won by a winning bidder at the conclusion of the electronic auction sale where computer terminals of potential purchasers are used to access an electronic auction web site maintained by an auction server computer. The method includes the steps of: debiting an electronic auction payment account corresponding to the winning bidder, where the electronic auction payment account is configured for storing funds therein and capable of being configured for automatically having funds transferred thereto from at least one source corresponding to the winning bidder of the item; and crediting at least one account corresponding to the seller to effect payment for the item won by the winning bidder. The steps of debiting the electronic auction payment

account corresponding to the winning bidder and crediting the at least one account corresponding to the seller occur in real-time.

Further, the method includes the steps of automatically replenishing the payment account corresponding to the user after the step of automatically deducting funds from the payment account, and charging a fee for automatically replenishing the payment account corresponding to the user of the electronic auction web site.

BRIEF DESCRIPTION OF THE DRAWINGS

The foregoing and other aspects and advantages will be better understood from the following detailed description of preferred embodiments of the invention with reference to the drawings, in which:

FIG. 1 is an overview of a network computing environment including the computerized electronic auction payment system according to the invention;

FIG. 2A is a flow chart illustrating logic processing steps for setting up electronic auction payment accounts using the computerized electronic auction payment system according to the invention;

FIG. 2B is a flow chart illustrating logic processing steps for effecting a real-time payment using the computerized electronic auction payment system where the winning bidder accesses a payment page according to the invention; and

FIG. 3 illustrates a print of a registration page that the computerized electronic auction payment system provides to a user for entering registration information;

FIGS. 4A-4B illustrate prints of a payment registration page that the computerized electronic auction payment system provides to a user for entering payment information;

FIG. 5 illustrates a print of the payment page that the computerized electronic auction payment system provides to the winning bidder at the conclusion of an electronic auction;

FIG. 6 illustrates a print of a confirmation page that the computerized electronic auction payment system provides to the winning bidder to confirm the entered payment information; and

FIG. 7 illustrates a print of a bill of sale page that the computerized electronic auction payment system provides to the winning bidder upon authorizing payment to the seller.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

FIG. 1 is an overview of a network computing environment 100 which includes the computerized electronic auction payment system according to the invention designated generally by reference numeral 110. The network computing environment 100 is designed to allow a host of users shown as 102 access to an electronic auction web site via a network, such as the Internet 106. Each of the users 102 has a computer terminal with the appropriate software, e.g., a web browser, for accessing the Internet 106. The users 102 are unknown to web server computers 107 and 108 of an electronic auction system 112, such as EBAY™. The web server computers 107 and 108 include custom written application software to maintain the electronic auction web site and allow each user 102 to browse the electronic auction web site and bid for items and/or sell items as known in the art.

The web server computers 107 and 108 of system 112 also allow each user to access the computerized electronic auction payment system 110 for effecting a real-time payment at the conclusion of an electronic auction. The web server computers 107 and 108 also provide data to the computerized electronic auction payment system 110, such as the names of the

winning bidder and seller at the conclusion of the electronic auction.

The computerized electronic auction payment system 110 includes a database of electronic auction payment accounts 114 and a web server computer 116 having a processor 118 capable of executing a set of programmable instructions stored within a memory 119.

- 5 The set of programmable instructions are custom written application software to enable the computerized electronic auction payment system 110 to perform various functions and methods described herein, such as maintaining the database of electronic auction payment accounts 114, and executing user-specified instructions, such as to loan funds to the user 102 if the user 102 has insufficient funds in his account to effect payment. The set of
10 programmable instructions also enable the computerized electronic auction payment system 110 to perform the inventive method of enabling a winning bidder to effect the real-time payment of an item won on the electronic auction web site as described below with reference to FIGS. 2A-7.

- 15 As shown by the large dotted box marked "A" in FIG. 1, the computerized electronic auction payment system 110 is located locally with the web server computers 107 and 108 and is connected to the Internet 106 directly and via the web server computers 107 and 108. The computerized electronic auction payment system 110 maintains a payment segment of the electronic auction web site and also enables a user 102 to access the payment segment.

- 20 It is contemplated that the computerized electronic auction payment system 110 can also be located remotely from the web server computers 107 and 108 for maintaining the payment segment or an auction payment web site independent from the electronic auction web site and for enabling the user 102 to access the payment segment or the auction payment web site. The payment segment of the electronic auction web site or the independent auction

payment web site are accessed by conventional methods, e.g., by the user 102 clicking an icon on the electronic auction web site, by the user 102 clicking a hyperlink on an e-mail, and by the user 102 typing the appropriate URL in the user's web browser.

5 The web server computers 107 and 108 share the responsibility for servicing the users of the electronic auction web site. The web server computer 116 has the responsibility for registering users of the system 110 and servicing the registered users as described below.

10 The web server computers 107 and 108 are identical and can be duplicated as additional load on the electronic auction system 112 occurs. The web server computer 116 can also be duplicated as additional load on the computerized electronic auction payment system 110 occurs. The duplication arrangement provides for immediate expandability of the electronic auction system 112 and the computerized electronic auction payment system 110 by merely adding additional web server computers as necessary. It is contemplated that network computing environment 100 is provided with one type of computer server for performing the functions of the web server computers 107 and 108 and the web server computer 116.

15 Each electronic auction payment account is configured for storing funds (similar to a bank account) which can be used to effect payment, and not information relating to sources which can be used to initiate payment, such as a credit card information. Further, each electronic auction payment account is configured for the system 110 to loan funds to, in case there are insufficient funds therein, to effect payment, as described below.

20 With reference to FIG. 2A there is shown a flow chart illustrating logic processing steps for setting up an electronic auction payment account for effecting the real-time payment using the electronic auction web site's payment segment maintained by the

computerized electronic auction payment system 110. Step 200 provides for the user 102 of the electronic auction web site, such as EBAY™ and YAHOO!™ Auctions, to access a registration page 300 (see FIG. 3) of the payment segment to register and set up the electronic auction payment account.

5 With reference to FIG. 3, the registration page 300 includes several fields 302 for the user 102 to enter identifying information, such as first name, last name, date of birth, citizenship, mailing address, and social security number. It is contemplated that fields can also be provided for registering corporations, organization, legal partnerships, etc. Such fields could require the user 102 to enter a corporate name and a tax identification number.

10 The registration page 300 also includes a field 304 for the user 102 to enter a user-name. The user-name could be identical to a user-name which the user 102 has been previously assigned by the electronic auction system 112. The registration page 300 further includes a field 306 for the user 102 to enter a password. The password could be identical to a password which the user 102 has been previously assigned by the electronic auction system
15 112.

 Upon entering the appropriate information on the registration page 300, the user 102 then clicks on a "NEXT" soft button 308. Upon clicking the "NEXT" soft button 308, the computerized electronic auction payment system 110 sets up the electronic auction payment account having the entered information and stores the electronic auction payment account
20 within the database of electronic auction payment accounts 114 (step 202). The process then proceeds to step 204 where a payment registration page 400 (see FIG. 4A) of the payment segment is accessed.

 It is contemplated that prior to proceeding to step 204, the system 110 forwards the

entered information to a credit checking system to verify the credit rating of the user 102.

With reference to FIG. 4A, the payment registration page 400 allows each user 102 to enter payment information (step 206). The payment registration page 400 includes several fields 402 for entering bank account information corresponding to a bank account the user 102 wants the computerized electronic auction payment system 110 to transfer funds from and to his electronic auction payment account.

The payment registration page 400 also includes several fields 404 for entering credit card information, in order for the computerized electronic auction payment system 110 to charge the user's credit card and deposit funds to the user's electronic auction payment account, prior to the user 102 being deemed a winning bidder for an item won on the electronic auction web site. The credit card information entered within fields 404 are also used by the computerized electronic auction payment system 110 to credit the user's credit card where the user 102 is the seller as described below. It is contemplated that the payment registration page 400 includes additional fields for entering other types of sources, such as other credit cards, other bank accounts, investment brokerage and corporate accounts, to be used for transferring funds to and from the user's electronic auction payment account.

The payment registration page 400 also provides an address 406 for the user 102 to mail his payment information (e.g., bank account information, and credit card information) or a check/money order payable to an operator of the computerized electronic auction payment system 110, if the user 102 feels uneasy transferring his bank account and/or credit card information over the Internet 106. A phone number is also listed for the user 102 to be able to call a representative of the system 110 to provide payment information.

The payment registration page 400 of the payment segment further includes

allocation fields 408 for the user 102 to indicate what percentage of funds deposited to his electronic auction payment account should be derived from charging his credit card and what percentage of funds deposited to his electronic auction payment account should be derived by transferring funds from his bank account. If only a single source is entered in payment registration page 400, then 100% of funds deposited to the user's electronic auction payment account are derived from that source, and the user 102 does not need to enter any percentages in allocation fields 408.

The payment registration page 400 also includes allocation fields 410 for the user 102 to indicate what percentage of funds transferred to his electronic auction payment account from other electronic auction payment accounts should subsequently be credited to his credit card and what percentage of funds transferred to his electronic auction payment account should subsequently be transferred by direct deposit to his bank account. If the percentages entered in each of the allocation fields 410 total less than 100%, then a percentage of the funds transferred to the user's electronic auction payment account from other electronic auction payment accounts are retained within the user's electronic auction payment account. Accordingly, the total percentages entered plus the percentage of funds retained within the user's electronic auction payment account equals 100%.

It is contemplated that the system 110 automatically transfers the percentage of funds allocated to user-specified accounts without first transferring these funds to the user's electronic auction payment account.

Since each user 102 of the electronic auction system 112 can use the system 112 to buy and sell items, it is preferred that each user 102 provide allocation percentages in fields 408 and 410. The fields 408 and 410 can be expanded for entering additional percentages

relating to other accounts, such as investment brokerage and corporate accounts, which could be used for depositing and withdrawing funds to and from the electronic auction payment accounts.

5 The percentages entered in allocation fields 408 and 410, like other information entered within the payment segment of the electronic auction web site, can be changed and/or reviewed by the user 102 accessing his electronic auction payment account stored within the database of electronic auction payment accounts 114. The user 102 can access his electronic auction payment account by clicking a "MY PAYMENT ACCOUNT" icon while in the electronic auction web site to access a sign-in or log-in page for entering one's user-
10 name and password, and clicking a "LOG-IN" icon.

The payment registration page 400 also includes a deposit field 412 for the user 102 to enter the amount of funds he wants to deposit into his electronic auction payment account from the various sources entered in fields 402 and 404. A withdrawal field 414 is also provided for the user 102 to enter the amount of funds he wants to withdraw from his
15 electronic auction payment account and transfer to the various sources entered in fields 402 and 404.

An automatic payment field 416 is further provided for the user 102 to authorize the computerized electronic auction payment system 110 to debit the user's electronic auction payment account in real-time every time the user 102 is deemed a winning bidder. If the user
20 102 checks this field, then, at the conclusion of an electronic auction, if the user 102 is deemed the winning bidder, then the system 110 in real-time debits the user's electronic auction payment account and credits an electronic auction payment account corresponding to the seller, and/or other user-specified accounts corresponding to the seller as described above

with reference to fields 402 and 404. The computerized electronic auction payment system 110 is provided with the names and identification information of the winning bidder and seller by the electronic auction system 112.

5 If the user 102, i.e., the winning bidder, has no funds in his respective electronic auction payment account, the computerized electronic auction payment system 110 loans system funds to the user 102 to effect the real-time payment. The system 110 loans system funds to the user 102, only if the user 102 has authorized the system 110 to loan system funds as described below. Preferably, the system 110 stores system funds in a system account maintained by a system account database 120, as shown by FIG. 1. The system account
10 database 120 is accessible by the web server 116 for transferring and loaning system funds stored in the system account to the user's electronic auction payment account.

The system account database 120 is also accessible by an external financial system 122, such as a financial institution's local area network, for transferring funds to and from the system account maintained by the system account database 120, upon authorization by
15 the web server 116. For example, the web server 116 can authorize the external financial system to wire funds in the amount of US\$100,000 to the system account. These funds can then be used as system funds for loaning to users 102 of the system 110 and for other purposes.

20 It is contemplated that the user 102 can opt to be loaned funds directly from a payment system of the external financial system 122 and not to be loaned system funds, i.e., funds stored within the system account. It is further contemplated that the user 102 can access a web site corresponding to the external financial system 122 by clicking or selecting an icon displayed by the electronic auction payment web site or the payment segment of the

electronic auction web site. Upon accessing the web site corresponding to the external financial system 122, the user 102 can register to be automatically loaned funds for the automatic payment of future payments, or for authorizing the loaning of funds to effect a current payment(s). In either case, the electronic auction payment system 110 communicates with the external financial system 122 for loaning funds to the user 102. For example, after the user 102 registers with the system 122 and the user 102 has indicated in field 418d, as described below, to be loaned funds in case there are insufficient funds in the user's electronic auction payment account, then when the system 110 detects there are insufficient funds in the user's payment account, the system 110 instructs the external financial system 122 to directly loan funds to the user 102. It is further contemplated that the financial institution overseeing the external financial system 122 is owned and/or operated by the operator of the electronic auction payment system 110 and/or the operator of the electronic auction system 112.

Further still, it is contemplated that the external financial system 122 includes local area networks of more than one financial institution. Accordingly, the system 110 can communicate with several financial institutions to receive funds from one or more of the financial institutions and in turn loan the funds on behalf of the financial institution(s) to the registered users 102 of the electronic auction payment system 110 and/or the electronic auction system 112.

It is also contemplated that the system 110 charges the users 102 a fixed or variable service fee for communicating with the financial institution(s) and receiving funds therefrom for loaning on behalf of the financial institution(s) to the users 102. The system 110 can also charge a one-time fixed or variable service fee to the financial institution(s) for loaning funds

on its (their) behalf to the users 102. The system 110 can further charge an on-going fee to the financial institution(s). The on-going fee is preferably based, e.g., a predetermined percentage, on the periodic interest earned by the financial institution(s) for the funds loaned to the users 102.

5 The funds debited from the winning bidder's electronic auction payment account and credited to the seller's electronic auction payment account in real-time by the computerized electronic auction payment system 110 are preferably equal to the final auction price plus any shipping and handling fees, and taxes. It is contemplated that the computerized electronic auction payment system 110 is provided with the total amount of the shipping and
10 handling fees from the electronic auction system 112. The system 112 stores these fees from the moment they were inputted by the seller at the time the seller listed the item on the electronic auction web site.

 It is further contemplated that the computerized electronic auction payment system 110 debits the winning bidder's electronic auction payment account and credits the seller's
15 electronic auction payment account to cover for taxes when the winning bidder and seller are from the same state or locality. This is determined by checking the state or locality corresponding to the winning bidder and the seller as stored within the database of electronic auction payment accounts 114. If the states or localities match, then the computerized electronic auction payment system 110 accordingly debits the winning bidder's electronic
20 auction payment account to cover for taxes corresponding to that state or locality. It is, however, understood that the system 110 can be programmed to debit the winning bidder's electronic auction payment account to cover for taxes (equal to a pre-programmed percentage corresponding to the state or locality and credit the seller's payment account)

even when the states or localities do not match, and/or to only debit to cover for taxes when the seller has indicated to the system 110 during the registration process or afterwards that he is a merchant, or other entity obligated by law to charge and pay taxes.

The computerized electronic auction payment system 110 further withholds a
5 predetermined percentage of the funds obtained by debiting the winning bidder's electronic auction payment account while effecting the real-time payment when the automatic payment field 416 is checked. These funds are withheld by the system 110 to pay the commission fees of the operator of the system 110 and/or the operator of the electronic auction system 112. The withheld funds are preferably stored within the system account maintained by the system
10 account database 120. The remaining or non-withheld funds are then credited to the electronic auction payment account of the seller, and/or other seller-specified accounts as described above with reference to fields 402 and 404.

Additionally, the computerized electronic auction payment system 110 debits the winning bidder's electronic auction payment account for purchasing insurance and/or to
15 cover personal guarantee fees, if the winning bidder has accordingly indicated as described below. These funds are stored within the system account maintained by the system account database 120 to cover personal guarantee fees, or are transferred to the external financial system 122 to purchase insurance.

At the conclusion of the real-time payment, an e-mail is transmitted to the winning
20 bidder and the seller confirming the transaction. The e-mail also indicates the total amount of funds debited, withheld and transferred, the mailing address of the winning bidder, the auction item, and the final auction price. The mailing address of the winning bidder is preferably obtained from the database of electronic auction payment accounts 114. The

5 auction item and the final auction price are obtained or transmitted from the electronic auction system 112. The e-mail can further include a hyperlink for linking to a web site where the winning bidder and seller can leave comments regarding their payment transaction. A hyperlink can also be included for viewing and/or printing a bill of sale or receipt.

10 It is contemplated that the automatic payment feature is overridden if the winning bidder does not have enough funds in his electronic auction payment account and has not indicated to the computerized electronic auction payment system 110 to use system funds as described below. If this is the case, the system 110 informs the winning bidder by e-mail, by sending a page, facsimile, etc. of the fact that the winning bidder does not have enough funds within his electronic auction payment account to effect a real-time payment of the item won.

15 The winning bidder can then transfer funds into his electronic auction payment account and then access the payment page 500 as described below with reference to FIG. 5; authorize the system 110 to use system funds and then access the payment page 500 as described below; or mail a check, money order, etc. to the seller.

20 With reference to FIG. 4B, the payment registration page 400, or a sub-page thereof, further includes option fields 418a-f. Option field 418a permits the user 102 to specify an amount of funds to be transferred by the computerized electronic auction payment system 110 from sources specified in fields 402 and 404 to the user's electronic auction payment account, if the total amount of funds within the user's electronic auction payment account is less than a user-specified amount.

Option field 418b permits the user 102 to indicate an amount of funds to be transferred by the computerized electronic auction payment system 110 from sources

specified in fields 402 and 404 to the user's electronic auction payment account on a user-specified periodic basis, e.g., daily, weekly, or monthly. It is contemplated to charge the user a service fee for providing this service.

Option fields 418c-f are yes/no option fields. If the field is clicked, then the user 102 has indicated "yes"; if the field is not clicked, then the user 102 has indicated "no". Option field 418c permits the user 102 to indicate whether the computerized electronic auction payment system 110 should replenish, from sources specified in fields 402 and 404, any funds debited for at least transferring funds to other electronic auction payment accounts, e.g., upon effecting a payment after the conclusion of an auction, or the system account. It is contemplated to charge the user a service fee for providing this service. The service fee could be fixed, or variable based on the total amount of funds transferred from sources specified in fields 402 and 404 to replenish the user's electronic auction payment account.

Option field 418d permits the user 102 to indicate whether the computerized electronic auction payment system 110 should use system funds, as stored within the system account, to effect payment for items won by the user 102, if the user's electronic auction payment account does not have sufficient funds to effect payment for the item won.

It is contemplated that the computerized electronic auction payment system 110 charges the user 102 interest for using system funds to effect payment. The interest charged is stored within the user's electronic auction payment account in order to allow the user 102 to view the outstanding interest charges by accessing his account. The total interest charged to all the users is preferably stored in the system account database 120 to allow the system 110 to easily determine the amount of interest due to the operator of the system 110. It is further contemplated that the computerized electronic auction payment system 110

automatically, or on a periodic basis, withdraws funds which are transferred to the user's electronic auction payment account and transfers these funds to the system account database 120, if the system 110 has used system funds to effect payment for the user 102 and the funds are currently outstanding, i.e., not paid, in order to effect payment to the operator of the system 110.

It is contemplated that the user provides authorization to the system 110 prior to the system 110 automatically, or on a periodic basis, withdrawing or deducting funds which are transferred to the user's electronic auction payment account. It is further contemplated to charge the user a service fee and to deduct funds to cover the service fee for automatically, or on a periodic basis, withdrawing funds from the user's electronic auction payment account and transferring the funds to the system account. The service fee could be fixed, or variable based on the total amount of funds transferred to the system account.

It is further contemplated that the computerized electronic auction payment system "locks out" the user 102 from using the electronic auction web site, if the user 102 owes money greater than a predetermined amount to the system 110 and the user 102 has not paid a predetermined percentage of the money owed for a predetermined period of time. For example, the user 102 gets "locked out" if he owes the system 110 US\$400 and has not paid 10% or US\$40 to the system 110 during the last four weeks.

Option field 418e permits the user 102 to indicate whether the computerized electronic auction payment system 110 should effect insurance coverage for items won by the user 102. This field also permits the user 102 to indicate a minimum final auction price for effecting insurance coverage. For example, the user 102 can indicate that the system 110 should effect insurance coverage only when the final auction price is greater than or equal to

US\$500. An icon 419 is displayed which the user can click to view a listing of the insurance charges for a range of final auction prices.

10044075-011102

If the user 102 indicates in option field 418e that the system 110 should effect insurance coverage for items won where the final auction price is greater than or equal to the minimum final auction price, then in every such instance, the system 110 also withdraws from (or, in case there are insufficient funds in the user's electronic auction payment account and the user 102 has indicated "yes" in option field 418d, loans to) the user's electronic auction payment account an amount equal to the insurance charge for the item won, if the final auction price is greater than or equal to the user-specified minimum final auction price. The system 110 stores these funds in the system account within the system account database 120 and then uses a portion of these funds, as directed by the web server 116, to purchase insurance for the item won by the user 102 from the external financial system 122 which may be an independent or affiliated insurance company or broker. The system 110 retains the other portion of the funds as an insurance purchase service fee. The retained portion can be stored within the system account, or preferably transferred to an interest-bearing account corresponding to the operator of the system 110. The interest-bearing account can be maintained by the external financial system 122. If the item turns out to be non-genuine and/or damaged, then the user 102 who bought insurance on the item can make a claim, to recover the funds transferred to the seller.

It is also contemplated that field 418e indicates to the user 102 that by indicating "yes", then any items won having a final auction price greater than or equal to the minimum final auction price are personally guaranteed by the operator of the computerized electronic auction payment system 110 for a predetermined guarantee fee. Accordingly, the operator of

the computerized electronic auction payment system 110 personally guarantees any auction items won by the user 102 which have a final auction price which is greater than or equal to the user-specified minimum final auction price. Hence, the system 110 debits the winning bidder's electronic auction payment account to cover for personal guarantee fees and transfers the debited funds to the system account maintained by the system account database 120.

Option field 418f permits the user 102 to indicate whether the computerized electronic auction payment system 110 should issue and mail checks to the user 102. The user 102 can then use the issued checks to draft checks against his respective electronic auction payment account. The computerized electronic auction payment system 110 or an independent accounting system, e.g., the external financial system 122, keeps track of checks drafted against electronic auction payment accounts and instructs the system 110 to deduct funds from the appropriate accounts.

The payment registration page 400 also offers the user 102 incentives for providing information in option fields 418a and 418b and for indicating "yes" to one or more of option fields 418c-f. For example, as indicated by icon 420, the user 102 can be offered the incentive of the system 110 periodically adding a predetermined amount of funds to the user's electronic auction payment account if the user 102 indicates "yes" in option fields 418c-f. The user 102 can also be offered the incentive of the computerized electronic auction payment system 110 paying any shipping and handling charges for items won by the user 102 on the electronic auction web site.

The user 102 can also be offered incentives based on the amount of funds periodically transferred to his electronic auction payment account as indicated in option field 418b. For

example, if the user 102 transfers less than or equal to US\$50 to his electronic auction payment account every week, then he has a 20% chance of winning a weekly sweepstakes drawing for a prize as conducted by the electronic auction payment system 110. If the user 102 transfers less than or equal to US\$100 to his electronic auction payment account every week, then he has a 30% chance of winning the weekly sweepstakes drawing as conducted by the electronic auction payment system 110, and so on. A similar incentive can also be offered to the user 102 based on an average amount of funds used by the user 102 to buy auction items during a predetermined period, e.g., in a given month.

It is contemplated that these and other incentives are also indicated on the electronic auction web site where unregistered and registered users can view the incentives. For example, one incentive which could be offered by the electronic auction payment system 110 and indicated on the electronic auction web site is that all registered users of the system 110 are automatically entered in periodic sweepstakes where they have the opportunity to win various prizes, such as US\$1,000.

Investment fields 422 are also provided by the payment registration page 400 of the payment segment for the user 102 to indicate how he wants his funds within his electronic auction payment account invested, e.g., a money market fund, a mutual fund account, etc. The funds can be invested by transferring the funds, upon instructions from the web server 116, to the external financial system 122, which could be, for example, an investment brokerage firm's system. If none of the investment fields 422 are selected by the user 102, the computerized electronic auction payment system 110 does not invest the user's funds.

The computerized electronic auction payment system 110 periodically adds funds to the user's electronic auction payment account reflecting any interest accrued by investing the

user's funds. The computerized electronic auction payment system 110 retains a portion of the interest accrued by investing the user's funds as an investment service fee, prior to adding funds to the user's electronic auction payment account. The retained interest is stored within the system account, or preferably, transferred to an interest-bearing account corresponding to the operator of the system 110 and maintained by the external financial system 122. It is contemplated to provide incentives to the user 102 for authorizing the computerized electronic auction payment system to invest the user's funds.

Upon entering the appropriate information on the payment registration page 400, the user 102 then clicks on a "NEXT" soft button 424. Upon clicking the "NEXT" soft button 424, the computerized electronic auction payment system 110 appends the respective electronic auction payment account with the information entered in payment registration page 400 and stores the appended electronic auction payment account within the database of electronic auction payment accounts 114 (step 208 of FIG. 2A).

At step 210, a confirmation message page (not shown) is then presented to the user 102 indicating that his electronic auction payment account has been appropriately set up or changed (in case the user 102 accessed a previously set up electronic auction payment account and changed the information provided therein). The confirmation message page also indicates if any transactions are set to occur or have occurred based upon the information entered in the payment registration page 400. For example, a message can indicate that US\$325 was withdrawn from the user's electronic auction payment account and transferred to the user's bank account as specified in field 402. Another message can indicate that US\$325 was withdrawn from the user's bank account as specified in field 402 and transferred to the user's electronic auction payment account.

It is contemplated that a message is also presented to the user 102 asking for a confirmation from the user 102 prior to the computerized electronic auction payment system 110 proceeding with a specified transaction, such as "By clicking the YES button, US\$325 will be transferred to Republic Bank Account No. 4356123. By clicking the CANCEL button, the transaction will be canceled."

A description will now be provided with reference to FIG. 2B for effecting a real-time payment using the computerized electronic auction payment system 110 at the conclusion of an electronic auction provided by the electronic auction system 112. The flow chart of FIG. 2B illustrates a real-time payment as initiated by the winning bidder by accessing a payment page of the payment segment of the electronic auction web site or an independent auction payment web site. That is, if the user 102 has not indicated "yes" in automatic payment field 416. As described above, a real-time payment can also be performed in real-time by the computerized electronic auction payment system 110 if the winning bidder has indicated "yes" in automatic payment field 416.

At step 220, after the winning bidder wins an auction item from the electronic auction web site, the winning bidder initiates a real-time payment, e.g., by clicking an icon on the electronic auction web site or by clicking a hyperlink provided on an e-mail transmitted by the electronic auction system 112 to the winning bidder and seller for accessing the payment segment. It is provided that the winning bidder's payment account is deducted automatically and the deducted funds are transferred to appropriate accounts, if the winning bidder fails to respond to the e-mail and/or access the payment segment within a predetermined time period, e.g., five days. It is further provided that the seller provides notification to the operator of the electronic auction system 112 if payment has not been effected within a

predetermined time period by the winning bidder, i.e., the winning bidder has not accessed the payment segment and has not provided authorization to deduct his electronic auction payment account. After determining that notification has been received from the seller, the electronic auction system 112 effects payment by automatically deducting funds from the winning bidder's electronic auction payment account and transferring the deducted funds to the electronic auction payment account corresponding to the seller, and/or other user-specified accounts corresponding to the seller as described above with reference to fields 402 and 404.

If the winning bidder initiates the real-time payment at step 220, then at step 222, the payment page, designated by reference numeral 500 in FIG. 5, is accessed, and the winning bidder then enters the amount of funds to be transferred to the seller in field 502. The amount of funds to be transferred to the seller could be, for example, the sum of the final auction price, the shipping and handling fees, and the taxes.

It is provided that the winning bidder can initiate the real-time payment at step 220 by activating a character recognition mode while viewing the e-mail transmitted by the electronic auction system 112. The character recognition mode can be activated by the winning bidder pressing a key on a keyboard, and/or selecting an icon on the e-mail or e-mail computer screen.

After activating the character recognition mode, the winning bidder can enter one or more characters corresponding to a portion of the hyperlink and the character recognition mode recognizes the intended hyperlink and automatically highlights the hyperlink. For example, if the hyperlink is "Payment Page", the winning bidder can enter, for example, the characters "paym" or "ment P" and the character recognition mode automatically highlights

the hyperlink "Payment Page". The winning bidder can then activate the hyperlink by pressing "ENTER" on the keyboard, by clicking the highlighted hyperlink using a mouse or other device, etc. Preferably, a window pops up when the character recognition mode is activated to enable the winning bidder to view the characters as they are being typed.

5 In the payment page 500, the winning bidder can also enter the amount of funds to be transferred to the system account database 120 in field 504, if the winning bidder elects to purchase insurance and/or have the operator of the system 110 personally guarantee the item won. It is noted that field 504 is already filled out by the system 110 if the winning bidder has pre-designated in field 418c for the system 110 to automatically provide insurance and/or
10 personally guarantee the item won, and the final auction price is greater than or equal to the minimum final auction price provided in field 418e. The winning bidder can click on icon 506 for a list of insurance prices, similarly, to icon 419.

 The payment page 500 also includes fields 508 providing various information. Fields 508 can provide, for example, the auction item number of the item won by the winning
15 bidder, a description of the item, the seller's user-name, the buyer's user-name, and the final auction price. The winning bidder then enters his password in field 510, and then clicks the "NEXT" soft button 512. Upon clicking the "NEXT" soft button 512, the winning bidder accesses a confirmation page in step 224. The confirmation page is shown by FIG. 6 and designated generally by reference numeral 600.

20 The confirmation page 600 includes several fields: field 602 provides the auction item number; field 604 provides the seller's user-name; field 606 provides the buyer's user-name; field 608 provides the amount of funds to be transferred to the seller as entered in field 502 of the payment page 500; and field 610 indicates the amount of insurance purchased or if

no insurance was purchased.

Field 612 indicates the amount of funds within the winning bidder's electronic auction payment account, and field 614 indicates the total amount of system funds to be used, if there are insufficient funds in the winning bidder's payment account and the winning bidder has indicated in field 418d for the system 110 to use system funds. Once the winning bidder has read the information provides by the confirmation page, he then authorizes payment at step 226 by clicking the "PAYMENT" soft button 616.

Upon clicking the "PAYMENT" soft button 612, the computerized electronic auction payment system debits the winning bidder's electronic auction payment account in by an amount equal to the amount entered in field 502 and credits the seller's electronic auction payment account and/or other accounts indicated by the seller in fields 402 and 404 in real-time, in accordance with the percentages entered in field 410. If insurance/personal guarantee has been specified by the winning bidder in field 504, the system 110 accordingly debits the winning bidder's electronic auction payment account in real-time, as described above, to purchase insurance and/or personal guarantee the auction item and to pay itself a service fee.

It is noted that if the winning bidder's electronic auction payment account does not have sufficient funds, the system 110 loans system funds from the system account to the winning bidder to effect payment, if the winning bidder has so indicated in field 418d. The amount of funds debited from the winning bidder's electronic auction payment account are replenished from sources indicated in field 408, if the winning bidder has so indicated in field 418c. Further, a pre-specified amount of funds are transferred to the winning bidder's electronic auction payment account, if the total amount of funds in the winning bidder's

payment account are less than the pre-specified amount of funds as indicated in field 418a, following the transfer of funds to the seller's electronic auction payment account.

The computerized electronic auction payment system 110 withholds a predetermined percentage of the funds entered in field 502 upon the "PAYMENT" soft button 612 being
5 clicked. These funds are withheld by the system 110 to pay the commission fees of the operator of the system 110 and/or the operator of the electronic auction system 112. The withheld funds are preferably stored within the system account maintained by the system account database 120.

It is contemplated that the payment transaction is stopped if the winning bidder does
10 not have enough funds in his electronic auction payment account and has not indicated in field 418d for the computerized electronic auction payment system 110 to use system funds. If this is the case, the system 110 informs the winning bidder by a message upon the winning bidder clicking the "PAYMENT" soft button 612 of the fact that the winning bidder does not have enough funds to effect a real-time payment of the item won. The winning bidder can
15 then transfer funds into his electronic auction payment account and then re-access the payment page 500; authorize the system 110 to use system funds by clicking field 418d and then re-access the payment page 500; or mail a check, money order, etc. to the seller.

At step 228, the computerized electronic auction payment system 110 displays a bill of sale or receipt, as shown by FIG. 7 and designated generally by reference numeral 700,
20 indicating completion of the payment. The bill of sale 700 includes several fields: field 702 provides the auction item number; field 704 provides a description of the item won; field 706 provides the seller's user-name; field 708 provides the winning bidder's user-name; field 710 provides the electronic auction payment account number of the winning bidder's electronic

auction payment account; field 712 provides the amount of funds transferred to the seller; and field 714 indicates if insurance was purchased by the winning bidder. The winning bidder can then click soft button 716 to print the bill of sale 700.

At step 230, an e-mail is transmitted to the winning bidder and the seller confirming the transaction. The e-mail also indicates the total amount of funds debited, withheld and transferred, the mailing address of the winning bidder, the auction item, and the final auction price. The mailing address of the winning bidder is preferably obtained from the database of electronic auction payment accounts 114. The auction item and the final auction price are obtained or transmitted from the electronic auction system 112. The e-mail can further include a hyperlink for linking to a web site where the winning bidder and seller can leave comments regarding their payment transaction. A hyperlink can also be included for viewing and/or printing the bill of sale or receipt as shown by FIG. 7.

For simplicity only a particular type of electronic auction has been described above in accordance with the system and method of the present invention. However, one skilled in the art can apply the inventive system and method to other types of electronic auctions via the electronic auction web site, such as electronic Dutch auctions, and direct purchase transactions, e.g., the "Buy It Now" feature offered by EBAY™, where the item offered for electronic auction sale via the electronic auction web site is purchased before any bids are submitted by registered users of the electronic auction web site.

It is provided that the electronic auction payment system 110 and/or the electronic auction system 112 store data relating to each item purchased or sold over a given time period by the winning bidder (or other electronic auction participant, such as a direct purchaser, i.e., one who purchases the item via a direct purchase) and seller, respectively. It

is contemplated that the data are stored only if the winning bidder's (or other electronic auction participant's) and/or seller's electronic auction payment account was debited or credited, respectively. The data are also stored if funds were loaned by the operator of the electronic auction payment system 110 to the winning bidder (or other electronic auction participant) to effect payment for the item purchased via the electronic auction web site.

The data stored for each item includes, but not limited to, identification information, such as name, identification number, address, user-name, etc., for the winning bidder (or any purchaser of the item) and the seller; the type of item, e.g., ceramic plate, United States postage stamp, etc.; manufacturing information relating to the item, e.g., the name of the manufacturer, the year the item was manufactured, and the place the item was manufactured; whether a certificate of authenticity or other similar document was provided by the seller of the item; a final auction price or direct purchase price for the item; an indication of whether the item was sold via an electronic auction or whether the item was sold by a direct purchase via the electronic auction web site; total amount of funds transferred from the electronic auction payment account corresponding to the winning bidder or purchaser (in case of a direct purchase); the total amount of funds, if any, loaned to the winning bidder or purchaser to effect payment for the item; a total amount of interest charges incurred if funds were loaned to the winning bidder or purchaser; an auction category for the item, such as antiques and art, books, collectibles, computers, home and garden, pottery and glass, stamps, and toys; and a date and time the final sale price for the item was determined.

The stored or maintained data are provided to the winning bidder (or purchaser), the seller, and/or a third party, such as a promotions/marketing company, by the operator of the system 110 and/or system 112. It is contemplated that the data are provided to the third party

only if the winning bidder (or purchaser) and/or seller provided authorization to the operator of the system 110 and/or system 112. It is further contemplated that at least a portion of the data is statistically analyzed by the operator of the system 110 and/or system 112 and is provided in statistical form, e.g., pie charts, bar graphs, percentages, etc. Further still, it is contemplated that at least a portion of the data is provided to the winning bidder (or purchaser), the seller, and/or a third party according to a periodic basis, such as daily, weekly, monthly and/or yearly, and/or a user-specified time basis. It is also contemplated that the operator of the system 110 and/or system 112 charges a fixed or variable fee for maintaining and/or providing the data. The fee could be charged to the winning bidder (or purchaser), the seller, and/or the third party.

It is provided that the above-described methods of the present invention, in particular the method of maintaining and providing data relating to items having been offered for sale via the electronic auction web site and purchased by a user of the electronic auction web site, can be incorporated or expanded within systems maintaining or supporting other electronic commerce web sites, such as electronic travel web sites and an electronic marketing web sites.

Although various preferred embodiments of the present invention have been described herein in detail, it will be appreciated by those skilled in the art, that variations may be made thereto without departing from the spirit of the invention or the scope of the appended claims.